Track Finding and Reconstruction for the OLYMPUS Experiment\textsuperscript{1} LAUREN ICE, Arizona State University, OLYMPUS COLLABORATION — The OLYMPUS experiment aims at measuring the positron-proton to electron-proton elastic scattering cross section ratio as evidence of a multiple photon exchange contribution to elastic electron-proton scattering. The experiment took place during 2012 using 2.01 GeV electron and positron beams incident on a hydrogen gas target. The cross section ratio is measured with the OLYMPUS spectrometer, comprising six wire chambers arranged in two sectors, surrounded by a time of flight scintillator array. Track finding and reconstruction is based on matching patterns derived from a Monte Carlo simulation followed by an implementation of the elastic arms algorithm. The employed algorithms will be discussed in detail in this talk.

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